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December 17, 2012

VIA HAND DELIVERY

Cynthia T. Brown
Chief of the Section of Administration, Office of Proceedings
Surface Transportation Board
395 E Street, SW
Washington, DC 20423

Step toe

STEP TOE & JOHNSON LLP



233525

**Re Reasonableness of BNSF Railway Company Coal Dust Mitigation Tariff Provisions,
STB Finance Docket No. 35557**

Dear Ms Brown:

Enclosed for filing in the above-captioned matter are the original and ten copies of the Public version of BNSF Railway Company's ("BNSF") Rebuttal Evidence and Argument We have included one unbound copy of the filing.

Please note that the filing contains a reference CD that includes public documents. We are also filing under separate cover the Confidential and Highly Confidential versions of BNSF's Rebuttal Evidence and Argument.

We have also included a CD that contains a PDF of the Public version of the BNSF's Rebuttal Evidence and Argument.

Please date stamp and return the extra copy of this letter to our messenger.

Thank you for your assistance

Sincerely,

Anthony J. LaRocca
Counsel for BNSF Railway Company

Enclosures

cc. Counsel of Record

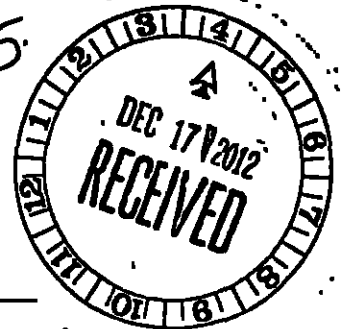
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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Finance Docket No. 35557

**REASONABLENESS OF BNSF RAILWAY COMPANY
COAL DUST MITIGATION TARIFF PROVISIONS**

**BNSF RAILWAY COMPANY'S
REBUTTAL EVIDENCE AND ARGUMENT**

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December 17, 2012

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Finance Docket No. 35557

**REASONABLENESS OF BNSF RAILWAY COMPANY
COAL DUST MITIGATION TARIFF PROVISIONS**

**BNSF RAILWAY COMPANY'S
REBUTTAL EVIDENCE AND ARGUMENT**

BNSF Railway Company hereby files its Rebuttal Evidence and Argument in the above-captioned proceeding in response to the reply evidence and argument of the following:

(1) Arkansas Electric Cooperative Corporation ("AECC"); (2) Western Coal Traffic League, American Public Power Association, Edison Electric Institute, and National Rural Electric Cooperative Association ("WCTL"), (3) Union Electric Company d/b/a Ameren Missouri ("Ameren"); and (4) Union Pacific Railroad Company ("Union Pacific").

I. Introduction

In *Coal Dust I*, the Board resolved the issues of critical importance relating to the problem of coal dust in the Powder River Basin ("PRB").¹ The Board concluded that coal dust blown out of loaded rail cars in transit poses a serious and unacceptable risk to the safety, integrity and efficiency of PRB coal transportation. *Coal Dust I* at 7-8. The Board also concluded that BNSF has the right to establish loading rules that will prevent the loss of coal dust in transit. *Id.* at 11. However, the Board found that BNSF's prior coal dust tariff was unreasonable because that tariff did not provide coal shippers with sufficient certainty that any

¹ *Arkansas Elec. Coop. Corp.—Petition for Declaratory Order*, Fin. Docket No. 35305 (STB served Mar. 3, 2011) ("*Coal Dust I*").

measures taken by the shippers in the loading process would be deemed by BNSF to satisfy BNSF's coal loading requirements. But the Board noted that "[a] cost effective safe harbor could go a long way to address our concern . . ." *Id* at 12.

BNSF responded to the Board's decision in *Coal Dust I* by establishing the safe harbor provisions that are at issue in this proceeding. The narrow issue in this proceeding is whether the safe harbor provisions in BNSF's Coal Loading Rule² are a reasonable implementation of the Board's guidance in *Coal Dust I*. The evidence and argument that have been submitted on opening and reply provide compelling reasons for the Board to conclude that the coal loading measures set out in the safe harbor provisions of BNSF's Coal Loading Rule are reasonable.

The safe harbor provisions identify actions to be taken by coal shippers and their mine agents that are straightforward and easy to implement. Compliance with the two central actions in the safe harbor – coal load profile grooming and the application of topper agents to loaded coal – do not disrupt the loading process. The equipment necessary to groom coal and to apply toppers is not costly or complicated. The approved topper agents are commercially available. *All major PRB mines are ready and able to start implementing the safe harbor measures as soon as their customers instruct them to comply with BNSF's loading requirements.*

The safe harbor measures are also cost effective. There is no serious dispute that the use of toppers is the most effective means of preventing coal dust in transit that is commercially available today. No one has identified a superior approach to coal dust mitigation that is commercially feasible. The application of topper agents to loaded coal is the approach that has been used wherever in-transit coal dust has been seen to be a problem. Data generated by BNSF,

² BNSF's Coal Loading Rule is set out in Item 100 of BNSF's Price List 6041-B and Appendices A and B ("Coal Loading Rule"). The Coal Loading Rule is attached to BNSF's Counsel Opening Exhibit 1.

PRB mines and shippers all show that the use of toppers substantially reduces coal dust losses in transit. Moreover, the use of toppers to control coal dust in transit adds only a modest amount to the substantial costs that PRB coal shippers and their mines already incur to deal with coal dust in other aspects of their operations. A majority of utility respondents to an NCTA poll agreed that the costs to comply with the safe harbor provisions are reasonable. See BNSF's Counsel Reply Exhibit 1 at 3.

The coal shippers that have participated in this proceeding continue to oppose the use of toppers to control coal dust losses in the PRB. But in three years of litigation over BNSF's coal dust mitigation requirements, coal shippers have yet to make a constructive alternative proposal for dealing with the problem. Shippers must take responsibility for keeping their coal in the loaded rail cars. Until a better approach is identified to prevent coal dust losses, the coal dust problem in the PRB can only be solved by complying with the approach set out in the safe harbor provisions of BNSF's Coal Loading Rule.

The litigation objective of WCTL and AECC has been to put off accepting responsibility for coal dust mitigation for as long as possible. The coal shippers' delay strategy is short-sighted and irresponsible, given the potentially serious consequences of coal dust fouling in the PRB for the energy supply chain in the United States. Moreover, most of BNSF's coal shippers are ready to accept responsibility for dealing with coal dust – and {{

}} – but they have little incentive to move forward while some shippers seek the Board's blessing to continue doing nothing.³ The Board needs to act promptly in finding that the safe harbor provisions in BNSF's Coal Loading Rule are reasonable so that the problem of coal dust in the PRB can be brought under control.

³ Confidential materials are designated by a single bracket – "{" – and Highly Confidential materials are designated with double brackets – "{{."

BNSF's Rebuttal Evidence and Argument responds to the reply filings of WCTL, AECC, and Ameren, who continue to argue that coal shippers should not have to comply with loading rules that will ensure that the shippers' freight remains in loaded rail cars in transit. BNSF's Rebuttal Evidence and Argument is supported by a Rebuttal Verified Statement of BNSF's witnesses Messrs. Carré and Murphy that addresses claims made by AECC and WCTL regarding the performance of topper agents in the Super Trial of 2010 and the relative effectiveness of profiling loaded coal in reducing coal dust losses in transit.

II. The Safe Harbor Provisions In BNSF's Coal Loading Rule Identify Reasonable Measures For Dealing With Coal Dust Losses In The PRB.

The safe harbor provisions of BNSF's Coal Loading Rule provide that a shipper will be deemed to be in compliance with BNSF's coal loading requirements if its mine agent grooms loaded coal to a specified profile and applies an approved topper to the loaded coal. The safe harbor provisions also state that BNSF will give safe harbor treatment to other coal dust mitigation approaches that can be shown to be as effective as the specified measures. The shippers do not object to the load profile grooming requirement. Indeed, they point to efforts by their mines to groom loaded coal as evidence that coal shippers are taking some steps to reduce coal dust losses in transit. AECC Reply at 11-12; Nelson Reply VS at 5. Instead, the focus of the shippers' challenge to the safe harbor is the requirement that shippers apply certain approved topper agents to the groomed coal. They seek to avoid responsibility for applying toppers on three grounds, none of which is valid

A. The Board Has Already Decided That Coal Shippers Are Responsible For Taking Measures To Ensure That Their Freight Remains In Rail Cars In Transit.

The first argument, advanced primarily by AECC, is that coal shippers should not have to take any special measures at all to deal with coal dust because coal dust is the fault of railroad operating and maintenance practices. According to AECC, “[i]t is unreasonable for the safe harbor to impose on coal shippers an obligation to prevent the deposition of fugitive coal caused by the railroads.” AECC Reply at 1-2. AECC argues, as it did in *Coal Dust I*, that coal shippers, unlike all other shippers, should not have to secure their freight in the loading process to ensure that it stays in rail cars in transit, but rather the railroads should change the way they operate and the way they maintain rail lines to avoid any loss of the freight in transit. The Board in *Coal Dust I* soundly rejected this argument, finding that BNSF is entitled to establish reasonable loading requirements to ensure that a shipper’s freight remains in loaded rail cars in transit. *Coal Dust I* at 10-11.⁴ The Board subsequently made it clear that this issue, like other issues addressed and resolved in *Coal Dust I*, is not a proper subject of this proceeding.⁵

AECC even goes so far as to question whether the Department of Transportation (“DOT”) had a valid basis for its position in *Coal Dust I* that coal dust is a harmful ballast

⁴ WCTL does not contend, as AECC does, that the issue of shipper responsibility to deal with coal dust is still an open one, but instead indicates that “Coal Shippers disagree with the Board’s analysis.” WCTL Reply at 25. WCTL included in an electronic addendum its entire set of filings in *Coal Dust I*, which supposedly explain why WCTL disagrees with the Board on this issue. WCTL’s filings in *Coal Dust I* are irrelevant here, and it is improper for WCTL to incorporate its filings wholesale in this proceeding by reference. The Board already considered and rejected WCTL’s position on the issue of shipper responsibility to deal with coal dust in *Coal Dust I*.

⁵ *Arkansas Elec. Coop. Corp.—Petition for a Declaratory Order*, STB Fin. Docket No. 35305, at 3-4 (STB served Nov. 22, 2011), *Reasonableness of BNSF Railway Co. Coal Dust Mitigation Tariff Provisions*, STB Fin. Docket No. 35557 at 1-2 (STB served June 25, 2012); *Reasonableness of BNSF Railway Co. Coal Dust Mitigation Tariff Provisions*, STB Fin. Docket No. 35557 at 1-2 (STB served Mar. 5, 2012).

foulant.⁶ The DOT's position was based on years of study by the FRA of ballast foulants, including coal dust, and the impact of ballast foulants on track stability.⁷ A 2009 FRA study noted that "coal dust is a major fouling material along the data collection route and coal dust has an anomalously high absorption capacity."⁸ DOT brought to the hearing in *Coal Dust I* the FRA's expert on rail ballast and track geometry, Dr. Ted Sussmann, whose studies of coal dust have repeatedly confirmed the pernicious nature of coal dust as a ballast foulant.⁹ Mr. Nelson's further claim that no "mainstream engineering texts identify coal dust as being more harmful than other ballast foulants" is absurd.¹⁰

⁶ On reply, Mr. Nelson repeats the erroneous claim he made on opening that BNSF's expert witness in *Coal Dust I*, Dr. Erol Tutumluer, "has basically recanted critical portions of his *Dust I* testimony." Nelson Reply VS at 18-19. Since *Coal Dust I*, Dr. Tutumluer has reiterated his earlier findings that coal dust is a particularly harmful ballast foulant. See Huang & Tutumluer, "Discrete Element Modeling for Fouled Railroad Ballast," *Construction and Building Materials*, Vol. 25, 3306-3312 at 3306 (Mar. 2011) ("[C]oal dust was by far the worst fouling agent for its impact on track substructure and roadbed.").

⁷ During the *Coal Dust I* hearing, the DOT witness, Paul Smith, testified that "[C]oal dust is a particularly pernicious fouling agent. It is not a garden variety dust or a fouling agent. It has its own particular characteristics, particularly when wet. It is something that poses a particularly substantive problem to the stability of rail ballast and although there has been some doubt raised on the record, we don't want here to be any doubt that from the FRA's perspective and from the DOT's perspective it is a real substantive problem that must be dealt with." *Coal Dust I*, Transcript at 11:4-14

⁸ Federal Railroad Administration, *Subsurface Evaluation of Railway Track Using Ground Penetrating Radar*, at 71-72 (Apr. 2009).

⁹ See, e.g., T R. Sussmann, et. al., *Sources, Influence, and Criteria for Ballast Fouling Condition Assessment* US DOT (TRB 2012 Annual Meeting) ("Unlike many other ballast fouling processes, the contamination of ballast with coal can occur before the ballast begins to breakdown. The result is the unusual condition where the fouling material is nearly 100% coal.").

¹⁰ See S S. Nimbalkar, et. al , *Effect of Coal Fines on the Shear Strength and Deformation Characteristics of Ballast*, 11th Australia – New Zealand Conference on Geomechanics, 451-456, 451 (2012) ("The intrusion of coal fines into ballast bed significantly reduces its shear strength, and causes rapid deterioration of the track demanding regular maintenance . . .

B. Reliable Data Support The Use Of The Approved Topper Agents Listed In The Safe Harbor Provisions.

The coal shippers' second excuse for not applying toppers is that BNSF has not shown – at least not to the satisfaction of shippers' "science" expert – that the approved toppers achieve the required 85% reduction in coal dust losses. The primary focus of WCTL and its witness Dr. Viz is the adequacy of the passive collector tests done by BNSF to support BNSF's choice of specific topper agents for use in the safe harbor. Cutting through the rhetoric about "junk science," WCTL does not argue that toppers are ineffective at preventing coal dust losses in transit or that there is a superior approach to prevent coal dust losses in transit. Rather, WCTL argues that BNSF has not shown through scientifically "certain[], reliab[le] or repeatab[le]" studies precisely how effective each topper agent is at reducing coal dust losses, and shippers should not have to do anything until such a showing is made. WCTL Reply at 8-9.

WCTL's supposed science concerns are a smokescreen to justify doing nothing. As BNSF has explained, BNSF carried out the Super Trial tests with extensive participation by coal shippers and PRB mines. The participating coal shippers and mines knew that the purpose of the tests was to evaluate the effectiveness of toppers to be used to prevent in-transit coal dust losses. The participating coal shippers and mines knew how the tests were being carried out and

excessive reduction in shear strength due to fouling can have serious implications on track stability"); F.N. Okonta, *Frictional Resistance of Coal Dust Fouled Uniformly Graded Aggregates*, Int'l J. of Physical Sciences, Vol. 7, 2960-2970, 2969 (June 2012) ("[T]here is a high likelihood of the stability of ballasts being significantly impaired in wet seasons due to increased degree of coal dust fouling."); Indraratna, et. al., *Behavior of Geogrid-Reinforced Ballast Under Various Levels of Fouling*, Geotextile and Geomembranes, Vol. 29, 313-322, 315 (2011) ("It is shown that the coal fines significantly reduce the peak shear stress of the ballast, because, they fill the voids while coating the particle surfaces."); P. Anbazhagan, et. al., *Characterization of Clean and Fouled Rail Track Ballast Subsurface Using Seismic Surface Survey Method: Model and Field Studies*, J. of Testing and Evaluation, Vol. 39 No. 5 at 2 (2011) ("Coal fouled ballast reaches optimum and critical fouling point before sandy clay fouled ballast."). For the Board's reference, the materials cited in footnotes 6 through 10 are included on the work paper CD accompanying BNSF's Rebuttal Evidence and Argument.

received detailed sets of test data and results as the field trials were being conducted. They had numerous opportunities to ask about the test protocol and to raise questions about the adequacy and reliability of the test procedures. They had direct input into decisions about which topper agents would be tested. Throughout the lengthy course of the Super Trial and the numerous meetings, the participating coal shippers and mines never challenged the validity of the passive collector tests or the credibility of the test results.

WCTL asks the Board not to give any weight to the shippers' participation in the Super Trial in evaluating the reasonableness of the Super Trial tests because the shippers did not actually "control" the methodology used in the tests. WCTL Reply at 9. But the extent to which coal shippers actually controlled the tests is irrelevant. The coal shippers knew how the tests were being carried out. If they had real concerns over the test procedures or data, rather than made-for-litigation concerns, they would have raised those concerns when the tests were being conducted.

In fact, the coal shippers had no reason to question the testing procedure or data. The passive collector tests were simple and straightforward. They were consistent with tests that had been done by BNSF, coal shippers, and their mines several times in the past. The tests did not rely on complex equipment, novel measurements, or sophisticated computer programs. The data were easy to understand and interpret. The tests showed beyond any question that certain toppers produced consistent and dramatic reductions in coal dust losses. Concerns were not raised by participants in the Super Trial about the "science" underlying the extensive passive collector field tests because there was no reason for concern. The tests were more than adequate to identify the most effective topper agents that are on the market today for curtailing coal dust losses in transit.

PUBLIC VERSION

Contrary to WCTL's assertion, BNSF is not asking the Board to "rubber-stamp" BNSF's efforts to identify effective topper agents. WCTL Reply at 3, 6. There is abundant evidence that the use of toppers will substantially reduce coal dust losses in transit in the PRB, and BNSF's choice of the specific approved topper agents is supported by substantial credible data. Given the simplicity of the tests, the evidence supporting BNSF's conclusions can be assessed without getting bogged down in a dispute over alternative methodologies and field protocols and academic sniping over the "science" of "air emission testing." WCTL Reply at 7

The data show beyond any serious doubt that the approved toppers consistently and dramatically reduce coal dust losses in transit. *See* VanHook Reply VS at 4-7, 9. Moreover, BNSF has a strong incentive to approve for safe harbor treatment only those toppers that will effectively reduce in-transit coal dust losses. Since the impact of coal dust accumulation in the PRB track ballast falls directly on BNSF in the first instance, it would do BNSF no good to give safe harbor treatment to toppers that will continue to allow coal dust to escape from loaded cars in transit in the PRB. BNSF included the approved topper agents in its safe harbor because there is clear evidence that those toppers are highly effective at reducing coal dust losses in transit.

In addition, coal shippers are not required to use the toppers that BNSF identified through prior field tests to satisfy BNSF's coal loading requirements if they believe a better approach is available. If a coal shipper believes there are alternative toppers or alternative coal dust mitigation approaches that are as effective as the safe harbor toppers, BNSF's Coal Loading Rule expressly states that BNSF will provide safe harbor treatment to such approaches so long as they can be shown to be effective. Indeed, BNSF approved for safe harbor treatment two additional toppers that were tested in 2011 after the Super Trial at the request of shippers. If coal shippers would like to take a different approach to testing alternative mitigation measures, BNSF has

encouraged them to do so. But coal shippers should not be allowed to use their made-for-litigation concerns about BNSF's Super Trial tests as an excuse to take no further action to deal with in-transit coal dust losses.

C. The Safe Harbor Identifies A Cost-Effective Approach To Curtailing Coal Dust Losses In Transit.

The shippers' third challenge to the use of toppers in the safe harbor is that BNSF has not shown that the benefits of applying toppers to the loaded coal outweigh the topper costs. AECC Reply at 17; Nelson Reply VS at 14. According to AECC, coal shippers should not have to incur any costs to mitigate coal dust until BNSF presents a cost-benefit analysis showing that the *benefits of the mitigation measures outweigh the costs. The shippers made the same argument in Coal Dust I*, and the Board rejected it:

Certainly, any tariff provision must be reasonably commensurate economically with the problem it addresses, but requiring a formal cost-benefit whenever a shipper challenges a new practice would unnecessarily limit the Board's discretion. There may be instances where a full, quantified cost-benefit analysis is warranted, but this is not that instance.

Coal Dust I at 6.

Under the standard set by the Board in *Coal Dust I*, BNSF's coal loading requirements must be "reasonably commensurate economically with the problem [they] address[]." *Id.* The reasonableness of a tariff requirement is therefore linked to the seriousness of the problem it is intended to address. Extensive or costly measures would not be appropriate to address a minor problem. But a serious problem would justify serious efforts to address it, so long as the solution is commercially feasible and the costs are not extraordinary or unduly burdensome.

The safe harbor provisions at issue here clearly meet this standard. The Board has already concluded that coal dust losses in the PRB pose serious risks to the safety, reliability and efficiency of PRB coal transportation, which is a critical element in the Nation's energy supply

chain. As the Board stated in *Coal Dust I*, “[c]learly, this is a problem that must be addressed.” *Coal Dust I* at 14. While WCTL continues to press its purported concerns over the way BNSF measured the precise amount of coal dust reduction achieved by particular topper agents, there is no serious question that the use of topper agents to prevent coal dust losses in transit – the disputed element in the safe harbor provisions at issue here – is the most effective approach to reducing coal dust losses in transit that is commercially available today. As noted above, no superior approach to preventing coal dust losses has been identified. The costs to apply toppers are modest. Moreover, if shippers are able to identify a less costly approach to coal dust mitigation that is shown to produce the same level of benefits that is achieved by the use of coal load profile grooming and the application of the approved toppers, the safe harbor provisions expressly provide that BNSF will give safe harbor treatment to that approach.

On the question of topper effectiveness, AECC and its witness Mr. Nelson on reply point to several photographs of rail cars from the Super Trial to suggest that the crust formed by topper agents often fails to remain intact over time. AECC Reply at 14-15; Nelson Reply VS at 6-7. Mr. Nelson claims that these pictures – some of which show some cracks in the topper crust or limited erosion of the crust from the surface of the coal load – raise a question as to the effectiveness of toppers in controlling coal dust losses in transit, at least in the later stages of a train’s trip to the utility plant

In their rebuttal verified statement, Messrs. Carré and Murphy explain that there is no reason to believe that cracks and erosion in the topper crust lead to an increase in coal dust losses. More important, the evidence from the passive collectors mounted on the cars shown in the photographs shows that there was no significant increase in coal dust from those cars. Messrs. Carré and Murphy looked at each Super Trial train containing a car that Mr. Nelson

claims had a topper “failure” and compared the coal dust losses from the treated cars on the train and the losses from untreated cars. Messrs. Carré and Murphy show that in virtually all cases, the amount of coal dust lost from a treated car was substantially less than the lowest level of coal dust from an untreated car. Carré-Murphy Rebuttal VS Exhibit 1 In all cases but one, where the results were distorted by problems with the topper application, the average coal dust losses from treated cars on the train were substantially less than the average losses on untreated cars on the same train. Carré-Murphy Rebuttal VS Exhibit 2. Messrs Carré and Murphy also explain that the problems with the topper crust seen in some of the photographs are most likely the result of poor loading or topper application practices, not a problem with the toppers. They further explain that the topper application has improved substantially since the Super Trial was conducted.

On the question of topper costs, the coal shippers do not argue that the topper costs are unreasonably high or that they would impose any commercial hardship on coal shippers. The shippers nevertheless try to create the appearance that topper costs are higher than they are. WCTL continues to refer to the cost estimates of topper application from *Coal Dust I* and suggests that topper costs could be as high as \$150 million annually. WCTL Reply at 16. WCTL ignores the extensive evidence that BNSF submitted on opening in this proceeding showing that topper costs have come down dramatically since evidence was submitted in *Coal Dust I*. *Id* As BNSF explained in its opening evidence and argument, discovery obtained from shippers in this proceeding indicates that {{ }} BNSF Counsel’s Op. at 19. BNSF’s evidence on opening showed that topper costs are as low as {{ }} VanHook VS Op. at 16. Contrary to WCTL’s claim that topper costs could range as high as {{ }} WCTL Reply at 16, BNSF’s evidence on opening showed

that the highest cost topper is approximately {{ }} *Id.* Applying the approved toppers will add less than {{ }} to the delivered cost of coal. VanHook Op. VS at 17.

While the safe harbor provisions therefore set out reasonable and cost-effective measures for dealing with the serious problem of in-transit coal dust losses in the PRB, shippers claim that they have already taken adequate measures to deal with coal dust losses and they should not have to do anything else. AECC claims that “[s]hippers have universally adopted profiling of coal cars and many have started using larger coal sizes to reduce coal dust.” AECC Reply at 12. The shippers do not argue that these measures achieve as much coal dust reduction as the use of toppers, or that they reduce coal dust by anything near the 85% reduction required in BNSF’s Coal Loading Rule.¹¹ Rather, they claim that BNSF has not justified the 85% coal dust reduction standard. AECC Reply at 6

BNSF’s witness Mr. Stevan Bobb explained on reply that BNSF adopted the 85% reduction standard because BNSF concluded that it was feasible to reduce coal dust losses by at least 85% without creating commercial hardship for shippers. Bobb Reply at 5. Given the serious risks associated with coal dust fouling and the urgency in eliminating as much coal dust from the ballast of PRB lines as possible, a lower reduction requirement would not be appropriate. The problem that must be addressed is a serious one, so halfway measures are not acceptable just because they cost less. The safe harbor provisions identify the most effective approach for dealing with coal dust losses in transit at a cost that is commercially reasonable, so shippers should be required to implement those measures or identify equally effective measures.

¹¹ Messrs. Carré and Murphy address in their rebuttal verified statement WCTL’s and AECC’s overstatement of the benefits that can be achieved through profiling of loaded coal without the application of a topper.

They cannot continue to allow their coal to be blown out of loaded cars traveling in the PRB when effective measures are available to contain the coal in the loaded cars.

III. There Is No Valid Reason For BNSF's Coal Loading Rule To Include A Cost-Sharing Provision.

*Shippers have traditionally been responsible for loading their freight into rail cars and securing their freight so that it does not escape during transit. The fact that the railroad benefits from a shipper's responsible loading practices by avoiding harm to the railroad's property from unsecured freight does not make the railroad responsible for the costs of loading. Loading is the responsibility of the shipper, and the shipper pays the loading costs. There is no reason for special rules governing coal. Coal shippers own their coal, and they are exclusively responsible for and in charge of loading it into rail cars at the mines. Coal shippers, like all other shippers, should bear the cost of responsible loading practices that will ensure that the shipper's freight is properly secured in the rail car.*¹²

The question of sharing loading costs between railroads and shippers does not belong in this proceeding. Cost sharing is a commercial issue that should be addressed through commercial arrangements between a railroad and individual shippers, not through broad pronouncements that cut across all of BNSF's shippers regardless of individual circumstances and regardless of the terms of commercial arrangements that have already been made. In fact, as explained by BNSF's witness Stevan Bobb, {{

}} Bobb Op. VS at 12

¹² BNSF addressed in its Reply Evidence and Argument shippers' legal argument that securing their coal freight so that it does not escape from loaded rail cars is a "special service" for which BNSF must pay. BNSF Reply at 21-22. On reply, WCTL referred to its "special service" argument without providing any additional support or detail. WCTL Reply at 13-14.

WCTL argues that the Board has the authority to {{
}} by ruling on the reasonableness of BNSF's Coal Loading Rule as that Rule is
applied to common carrier shippers. *See* WCTL Reply at 13 ("the Board's exercise of
jurisdiction will set the governing reasonable common carrier terms {{
}}). WCTL is unabashedly asking the Board to {{

}} The Board does not have that authority. *See H B. Fuller Co v S.
Pac. Transport. Co.*, 2 S.T.B. 550, 553 (1997) ("In this case, the transportation was performed
under contract, even though the terms of the contract refer to the carrier's tariff. Thus . . . the
Board would not have jurisdiction over services provided under contracts incorporating those
tariffs") *See also Omaha Pub Power Dist v. Union Pac. R.R. Co* , No. 42006, at 2 (STB served
Oct. 17, 1997); *Cross Oil Ref. & Mktg. Inc. v. Union Pac. R R Co* , No. 33582, at 3 (STB served
Oct 27 1998).

Moreover, there is no reason for the Board to address cost sharing even as it relates to
common carrier shippers. According to the shipper participants in this proceeding, the concern
of common carriers is that (1) the common carrier will bear the cost of preventing coal dust
fouling, (2) BNSF will receive the benefit of coal dust mitigation through reduced maintenance
costs, but (3) common carrier rates will not decline as BNSF's costs are reduced. *See Nelson
Reply VS* at 15 ("If the Board allows the railroads to off-load maintenance costs onto shippers
without requiring an equal or greater reduction in rates, the savings achieved by the railroad
would in their entirety constitute an increase in an already-impermissible cross-subsidy from
PRB coal shippers ")

This concern is totally irrelevant to contract shippers, {{

}} If,

as WCTL suggests, the Board had authority to {{

}} But even as to common carrier shippers, the shippers' concern that rates might become unreasonable in the future does not support a broad cost-sharing requirement in BNSF's loading rules. If common carrier shippers conclude that a future rate becomes unreasonable because the rate fails to adequately reflect future maintenance activities, the issue should be taken up in an individual common carrier rate case. There is no valid reason for the Board to consider a broad cost-sharing requirement to deal with future concerns over rate levels that are purely speculative.

IV. The Lack of Specific Penalties for Noncompliance Does Not Make BNSF's Coal Loading Rule Unreasonable.

The shippers also argue that BNSF's Coal Loading Rule should be declared invalid because the Rule does not specify penalties for failure to comply with the Rule. The shippers' position rests on a legal argument and a fairness argument. Both arguments are fatally flawed.

The shippers' legal argument is that "the law requires [BNSF] to set out its common carrier enforcement policies in its common carrier tariffs." WCTL Reply at 18. They cite no support for this bald contention.¹³ The cases they cite merely state that the terms used in a tariff must be reasonably clear so that the shipper knows what it needs to do to comply with the tariff. *See Birmingham Rail & Locomotive Co. v Aberdeen & Rockfish R.R.*, 358 I.C.C. 606, 608 (1978) (tariff provision stating that locomotive cranes must be "in condition to move at speeds

¹³ Indeed, as Union Pacific points out in its reply evidence, there are many examples of rules and tariffs that do not have specific penalty or enforcement provisions.

over 35 mph" was too vague because it "does not provide . . . criteria which are used by the carrier in determining speed capability"); *Radioactive Materials, Special Train Service, Nationwide*, 359 I.C.C. 70, 73 (1978) (tariff provision stating that special train service "will be made available by the railroads 'at their convenience'" was too vague). But the safe harbor provisions at issue here clearly meet the requirement of these cases. The safe harbor provisions set out clear and easily understood actions that can be taken by shippers to ensure compliance with BNSF's coal loading requirements. The shippers have never suggested that the safe harbor provisions are unreasonable because the shippers do not know how to comply with the safe harbor.

The shippers' "fairness" argument is that it is unfair for "BNSF to play cat-and-mouse with its coal dust tariff procedures, particularly in light of its not-so-veiled threats to stop service, or impose draconian financial penalties for non-compliance." WCTL Reply at 19. But BNSF has made its position on enforcement of its Coal Loading Rule clear. Shippers that are engaged in good faith efforts to comply will not be subject to penalty or enforcement measures. BNSF understands that shippers and mines will need some time to gain experience with coal dust mitigation before establishing specific incentives or penalties based on their performance of the required mitigation activities. As to shippers that simply refuse to comply with BNSF's Coal Loading Rule, the Board should make clear that a shipper's deliberate non-compliance with a railroad's reasonable loading rule is not acceptable. Shippers should not be able to choose between compliance and non-compliance with a reasonable operating rule based on the shipper's internal assessment of which approach is the least costly. BNSF's loading and operating rules define the terms on which BNSF agrees to accept a shipper's freight for transportation, and uniform adherence to those rules is necessary for safe and efficient operation of the railroad.

If a shipper simply refuses to comply with BNSF's loading requirements, BNSF will have to evaluate its options based on individual circumstances. This is not playing "cat-and-mouse" with shippers. BNSF cannot be expected to determine in advance how it will deal with individual shippers that refuse to comply with BNSF's rules. The possibility of refusing to accept freight that is not in compliance with BNSF's loading requirements must be an available option, but as BNSF has stated, it is not an option that would be taken lightly. In any event, BNSF has stated that it will give 60 days' notice before taking any action in response to a common carrier shipper's noncompliance with BNSF's Coal Loading Rule.

V. Shippers Have Misunderstood The Liability Provision In The Safe Harbor.

BNSF explained in its opening evidence that the shippers' concerns about the liability provision in the safe harbor were based on a misunderstanding of BNSF's intent. *See* BNSF Op. at 27. The shippers interpreted the liability provision as imposing strict liability on coal shippers for any harms caused by topper agents. *See* Ameren Op. at 4; WCTL Op. at 38. However, as Mr. Bobb explained in his opening verified statement, BNSF's intent is not to hold shippers liable for injury or damages associated with the proper use of topper agents. BNSF's tests have shown that the approved topper agents are not dangerous or damaging when used properly. Instead, BNSF's intent was to hold shippers liable for negligent or improper use of the approved topper agents. BNSF also wanted to make it clear that if shippers propose an alternative dust mitigation approach, the shipper must show BNSF that the approach is not dangerous to BNSF's employees, equipment or property. *See* Bobb Op. VS at 13.

None of the parties to this proceeding disputes that coal shippers should be held liable for their own negligence. *See* Ameren Reply at 3 (stating that "normal tort law principles already hold shippers responsible for their own negligence"). Nevertheless, Ameren continues to attack

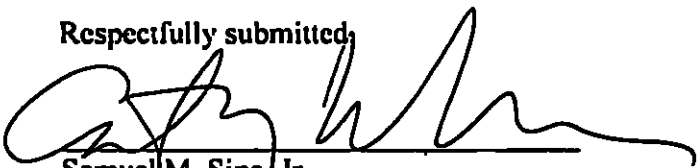
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the provision as being superfluous, *see* Ameren Reply at 3, and Ameren and WCTL continue to claim that the provision is an attempt by BNSF to limit its liability under state tort law. *See* Ameren Reply at 3, WCTL Reply at 22.

BNSF continues to believe that the liability provision in the Coal Loading Rule is consistent with governing legal principles that hold shippers liable for their negligent loading actions. BNSF also believes that inclusion of an explicit liability provision that is consistent with existing law reduces uncertainty and therefore provides a benefit to both railroads and shippers. However, if the Board concludes that the presence of the liability provision in the safe harbor provision is an unnecessary complication of BNSF's efforts to bring in-transit coal dust losses under control in the PRB, BNSF will remove the provision from the Coal Loading Rule in the interest of making progress in dealing with coal dust.

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December 17, 2012

CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of December 2012, I caused a copy of the foregoing to be served by hand delivery upon all parties of record in this case as follows:

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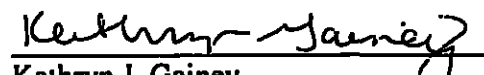
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REBUTTAL VERIFIED STATEMENT
OF
E. DANIEL CARRÉ AND MARK MURPHY

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB Finance Docket No. 35557

**REASONABLENESS OF BNSF RAILWAY COMPANY
COAL DUST MITIGATION TARIFF PROVISIONS**

REBUTTAL VERIFIED STATEMENT OF E. DANIEL CARRÉ AND MARK MURPHY

We are E. Daniel Carré and Mark Murphy. We previously submitted verified statements in this proceeding as part of BNSF's opening and reply evidence. We submit this rebuttal verified statement to respond to assertions made in the reply filings of Arkansas Electric Cooperative Corporation ("AECC") and its witness Mr. Nelson and Western Coal Traffic League, American Public Power Association, Edison Electric Institute, and National Rural Electric Cooperative Association ("WCTL"). Our statement addresses two topics: (1) the performance of topper agents in the Super Trial, and (2) the relative effectiveness of profiling loaded coal in the reduction of coal dust losses in transit.

I. The Super Trial Identified Topper Agents That Were Highly Effective In Reducing In-Transit Dust Losses.

We have previously described the extensive field tests of topper agents that we helped BNSF carry out in 2010 called the Super Trial. As we explained, BNSF tested the effectiveness of several different topper agents in reducing coal dust losses in transit by using test trains that consisted of cars that had been treated with the topper agent and, as a control, cars that had not been treated. Several treated and untreated cars in the test trains were equipped with passive collectors that measured the amount of coal dust lost from the car in transit. The amount of coal dust lost from treated cars was compared to the amount of coal dust lost from untreated cars on

the same train to assess the effectiveness of the topper agents used in the test. For the topper agents that BNSF ultimately approved for use in the safe harbor provisions of BNSF's Coal Loading Rule, the results showed dramatic and consistent reductions in coal dust losses from the treated cars. BNSF's witness Mr. William VanHook presented the comparison data in his reply verified statement in this proceeding. VanHook Reply VS at 4-7, 9.

In their reply filings, AECC and its witness Mr. Nelson claim that photographs taken during the Super Trial of cars that had been treated with toppers show "failures" in the crust formed by the topper agents on a large number of cars. AECC Reply at 13-14; Nelson Reply VS at 6-7. Mr. Nelson uses the photographs, which he includes in Exhibits 1 through 3 of his statement, to question the effectiveness of toppers, suggesting that "failures" in the crust can be expected to contribute to coal dust losses by the time the train reaches its destination. There are several problems with Mr. Nelson's discussion of the photographs.

As an initial matter, many of the photographs he includes are irrelevant. Several photographs are of cars that were treated with body treatment chemicals that BNSF found were not effective in reducing coal dust losses in transit.¹ Moreover, Mr. Nelson claims that he only included photographs showing a topper "failure," but a large number of the photographs he

¹ We identified the body treatment trains by matching the locomotive numbers for trains from Appendix A in Mr. Nelson's reply statement to the locomotive numbers contained in the data from BNSF's Technical Research & Development Department for the Super Trial for trains treated with {{ }} See BNSF_COAL DUST II_00301650-53; 00339563-67 (included in the materials accompanying Mr. VanHook's Verified Statement in the reference CD attached to BNSF's Reply Evidence and Argument). In their discussion of this issue, AECC and Mr. Nelson also continue to refer to problems with toppers that were not approved by BNSF for use in the safe harbor, including a {{ }} topper that was tested in { } and the {{ }} topper. AECC Reply at 14; Nelson Reply VS at 7. The performance of these toppers is obviously irrelevant to the reasonableness of the safe harbor provisions. Confidential materials are designated by a single bracket – "{" – and Highly Confidential materials are designated with double brackets – "{{".

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included in the exhibits (we estimate 20 percent) have no noticeable problem at all with the topper crust or it is impossible to tell whether there was a problem.²

Mr. Nelson does not go into any detail about the issues he sees in the pictures with the topper crust, but one of his concerns appears to be the presence of cracks in the crust. The picture set out below is an example of a supposed topper "failure" involving cracks in the topper crust.

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As we explained in our reply verified statement, the formation of cracks in the topper crust is not unusual. But there is no reason to believe that the formation of cracks in the topper crust will have a notable impact on the amount of coal dust lost in transit. It is clear from the photograph set out above that notwithstanding the existence of cracks, the crust remains intact, and the fine

² See e.g., Nelson Reply VS Exhibit 1 at 3, 4, 11, 23, 38, 40; Exhibit 2 at 13, 19, 29; Exhibit 3 at 1, 16, 19.

coal particles under the crust are not exposed to wind that could cause them to be blown out of the rail car.

Mr. Nelson also appears to be concerned about the integrity of the topper crust or areas where the crust has broken apart (mostly at the rear of the car or along the sides), and where the pieces of the broken crust have settled along the edges of the loaded coal car. The photograph set out below shows an example

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It is clear that the photograph shows an area of erosion that is limited to the rear edge of the car. Moreover, in the remainder of the car, the topper crust is solid and intact. BNSF's Coal Loading Rule does not require a 100% elimination of coal dust losses in transit. Therefore, even if some erosion of the topper crust occurs on an area of some cars, the topper agent may still effectively reduce coal dust to the levels required by BNSF's Coal Loading Rule. In addition,

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even where erosion occurs in the topper crust, there is no reason to believe that it would lead to a large increase in coal dust losses from that limited section of the car. When such erosion occurs, the big chunks in the eroded chemical layer have simply been displaced and redistributed within the car as they tend to settle along the inside edge of the car. By the time the crust has broken apart, the coal fines that were originally at the top of the load likely have migrated down into the load and would no longer be subject to the wind.

It is not necessary, however, to speculate about the effect of these supposed crust "failures," since the Super Trial generated data that allow us to determine whether the cracks and erosion in the topper crust made a substantial difference in coal dust losses. We examined the passive collector data for { } of the trains cited by Mr. Nelson as containing cars that experienced a supposed topper "failure" and had been treated with the {

} topper agents, which have been approved for use in the safe-harbor provisions of BNSF's Coal Loading Rule.³ Exhibit 1 contains graphs showing the actual coal dust amounts from all passive collectors on the { } trains.⁴ It is clear that notwithstanding the supposed "serious[] enroute topper failure" as characterized by Mr. Nelson on page 7 of his reply statement, the treated cars consistently had substantially less coal dust than the untreated cars. In virtually all

³ Mr. Nelson showed pictures of supposed topper "failure" for {{ }} trains in total. We excluded {{ }} of those trains from our review because they were not trains that BNSF used in assessing the effectiveness of the toppers that were approved for use in the safe harbor. {{ }} of the {{ }} trains were treated with body treatment. {{ }} were trains that had been treated with topper agents but experienced precipitation. As we have previously explained, in its Super Trial results, BNSF did not include the data from trains that experienced precipitation.

⁴ The CD attached to BNSF's Rebuttal Evidence and Argument contains work papers to the charts included in Exhibits 1-2. The data used to compile these charts were produced in discovery and were included in the materials accompanying Mr. VanHook's Verified Statement on the CD attached to BNSF's Reply Evidence and Argument.

cases, the amount of coal dust collected in the passive collector attached to a treated car was substantially less than even the lowest amount of coal dust collected from an untreated car. Exhibit 2 shows that in all but one case, the average amount of coal dust from treated cars on a train was dramatically lower than the average amount of coal dust from untreated cars on the same train.⁵ Even if there was cracking or erosion on some cars on some trains, the toppers that BNSF approved for use in the safe harbor produced consistently high reductions in coal dust losses. Therefore, even if the topper crust breaks apart to a limited extent on some cars after traveling long distances, the use of toppers is still a highly effective means of preventing coal dust losses in transit.

Finally, it is likely that the so-called “failure” in the topper crust identified by Mr. Nelson in the photographs has nothing to do with the quality or effectiveness of the toppers themselves, but instead is the result of poor loading practices at the mines or problems with the application of the toppers. For example, in the picture set out below, the coal load-out operator failed to properly load the car. The operator front-loaded the car, exposing the rear crossbar in the car and leaving large voids in the back of the car. This caused a major redistribution of the coal in the car and the breaking up of the topper crust during transit, as the coal attempted to fill the void spaces in the car.

⁵ The one train where {{

}} See VanHook Reply VS at 7 n.3.

{{

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The most important cause of erosion is likely to be inadequate application of the topper. As noted above, in most cases, the erosion in the crust is found along the edges and the rear of the car where the application of toppers is most difficult, particularly with the type of equipment used at the mines during the Super Trial. The Super Trial was the first large-scale use of toppers in the PRB, and all of the mines used temporary equipment that experienced application problems during the tests, including clogged spray nozzles. Following the Super Trial, the mines have installed or are installing much better equipment that will improve the application of toppers to the loaded coal. Below is an example of the temporary equipment used during the Super Trial compared to the superior permanent topper application equipment that has been installed at {{ }} The permanent spray systems have improved pumps, spray nozzles, and wind protection to ensure that the topper agent is applied to the coal surface and is not blown away by the wind.

{{ .

}}

In sum, the problems identified by Mr. Nelson in the photographs he included in his reply *statement did not prevent the toppers from effectively reducing coal dust losses in transit in the PRB to levels required by BNSF's Coal Loading Rule.* Moreover, the problems he identified appear to be largely the result of practices at the mines that will improve as the mines gain experience with the application of toppers and the modified loading chutes.

II. The Shippers Overstate The Impact That Profiling Alone Has On The Reduction Of Coal Dust Losses In Transit.

On reply, WCTL and AECC suggest that they are doing enough to deal with coal dust losses by simply having their mines use modified loading chutes to groom the loaded coal in a rail car to a more aerodynamic load profile. AECC Reply at 11-12; Nelson Reply VS at 5; WCTL Reply at 26-27. As we have said previously, load profile grooming is an important part of the solution to coal dust fouling in the PRB, but it is far from sufficient to deal with the coal dust problem on its own. Load profile grooming helps reduce the impact of wind on the coal

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load and reduces the redistribution of coal within the car over time that can expose coal fines to being blown out of the loaded car. But the application of toppers to the loaded coal is essential to achieving anything more than a minor level of coal dust reduction.

The shippers vastly overstate the amount of coal dust reduction that can be achieved only through coal load profile grooming.⁶ The shippers point to early tests that BNSF carried out in 2005 to study the impact of a load profile grooming bar to suggest that coal dust can be substantially reduced through load profile grooming using modified loading chutes. But those tests were done before any mines adopted modified loading chutes. Instead, to simulate a groomed load, we applied a grooming bar attached to a backhoe that physically reshaped the load profile of the coal to conform to the prescribed profile. This is a far more effective way of grooming coal than the use of a modified loading chute alone because we paid careful attention when grooming each car, and our approach did not rely on the skill or experience of the load out operator to achieve the desired load profile. We attached passive collectors to the test cars to assess the relative reduction in coal dust from cars that had been groomed with the grooming bar as compared to ungroomed cars. While some reduction in coal dust was seen, the results were highly variable, ranging from {

}⁷ When we shared the results with the NCTA in 2007, we made clear to the shippers that the results were

⁶ BNSF addressed on reply the shippers' claim that the use of 3 inch minus coal by some mines (coal crushed using rollers spaced 3 inches apart) would, in combination with load profile grooming, substantially reduce coal dust losses in transit. The crushing of coal to sizes no larger than 3 inches still produces coal fines that will be blown out of the loaded rail cars in transit. Even if all mines were to convert to the use of 3 inch minus coal, the impact on coal dust fouling would be relatively slight.

⁷ See Exhibit 5 at 61, 65, and 68 of Verified Statement of William VanHook in Support of BNSF Railway Company's Opening Evidence, *Petition of Arkansas Elec. Coop. Corp. for a Declaratory Order*, STB Fin. Docket No. 35305 (filed Mar. 16, 2010). Materials that have been referred to from *Coal Dust I* are included on the reference CD attached to BNSF's Rebuttal Evidence and Argument

preliminary and that the dust reduction results likely overstated the reduction that could be expected from grooming alone.

While these preliminary tests were carried out with a grooming bar attached to a backhoe, the mines instead currently groom coal by using a modified loading chute. Therefore, the results of the grooming bar tests in the controlled setting cannot be used to infer that the same level of coal dust reduction would be achieved using the modified loading chutes at the mines.

Moreover, we did additional tests in 2007, after most mines had begun to use modified loading chutes, to determine the effectiveness of the modified loading chutes on coal dust reduction. Since the modified loading chutes were being used to load coal into all cars, it was no longer possible to do passive collector tests comparing groomed and ungroomed cars in the same train. Instead, we looked at data from dustfall collectors that had been installed along the PRB tracks to assess the impact of load profile grooming.

BNSF described in *Coal Dust I* the dustfall collectors that were installed along the PRB right of way after the 2005 derailments. Dustfall collectors are containers that collect coal dust that has been blown out of coal trains over time at a fixed location. A picture of a dustfall collector was included in Mr. VanHook's Opening Verified Statement in this proceeding. See VanHook Op. VS Exhibit 2 at 2. To assess the relative effectiveness of the mines' use of modified loading chutes to profile loaded coal, we looked at the amount of coal dust that had accumulated in the dustfall collectors, before the mines had adopted modified loading chutes, and compared that to the amount of coal dust that accumulated in the dustfall collectors, after mines had begun using the modified loading chutes. As BNSF did with other tests and analyses of coal dust, BNSF shared these results with its coal shippers. These tests were not very rigorous, but they did provide some indication of the order of magnitude impact of load profile

grooming on its own to achieve coal dust reductions. As Mr. VanHook noted in his opening verified statement in this proceeding, the results showed a very modest reduction of coal dust on the order of { } See VanHook Op. VS at 4.

Mr. Nelson argues that the { } estimate from the dustfall collector analysis is too low, claiming that there were fewer trains during the period when cars were not groomed. Nelson Reply VS at 4. Mr. Nelson is incorrect. The daily average number of loaded coal trains was almost the same during the ungroomed time period {{ }} as compared to the average number of loaded coal trains per day during the groomed period {{ }}.⁸

Thus, while load profile grooming is an important step to reducing coal dust losses, it alone is not sufficient. An effective approach to reducing coal dust losses in transit in the PRB must include the use of specially formulated topper agents in addition to the proper loading, as provided in the safe harbor provisions of BNSF's Coal Loading Rule.

⁸ See Exhibit 19 at BNSF_COAL DUST _0064120 of Verified Statement of William VanHook in Support of BNSF Railway Company's Opening Evidence, *Petition of Arkansas Elec. Coop. Corp. for a Declaratory Order*, STB Fin. Docket No. 35305 (filed Mar. 16, 2010). The reference CD attached to BNSF's Rebuttal Evidence and Argument includes a work paper showing our calculations.

I declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this Verified Statement.

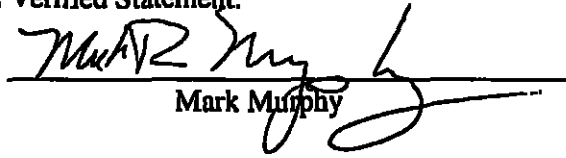
Executed on December 14, 2012



E Daniel Carré

I declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this Verified Statement.

Executed on December 14, 2012


Mark Murphy

CARRÉ-MURPHY EXHIBIT 1

**EXHIBIT 1 CONTAINS CONFIDENTIAL AND
HIGHLY CONFIDENTIAL INFORMATION**

CARRÉ-MURPHY EXHIBIT 2

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**EXHIBIT 2 CONTAINS CONFIDENTIAL AND
HIGHLY CONFIDENTIAL INFORMATION**

REFERENCE CD